Tack Welder

QP Code: CON/Q1251

Version: 1.0

NSQF Level: 3

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Contents

CON/Q1251: Tack Welder

Brief Job Description

Tack Welders are expected to perform tack welding operation on structural steel components by arc welding at locations instructed by trade seniors with required specifications. They are also expected to carry out welding with required quality following all the safety norms applicable to welding works.

Personal Attributes

The individual is expected to be physically fit, mentally alert and safety conscious to be able to work across various locations and heights, withstanding extreme conditions while working. Moreover, the individual should preferably not be suffering from any respiratory disorder, vision defects and skin allergies due to exposure to light and heat. They should have good communication skills and should be able to work within a team to handle various welding tools and materials.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. CON/N1251: Perform tack welding operations on structural steel elements
2. CON/N1252: Carry out preheating of materials before cutting and welding process
3. CON/N8001: Work effectively in a team to deliver desired results at the workplace
4. CON/N9001: Work according to personal health, safety and environment protocol at construction site

Qualification Pack (QP) Parameters

Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Fabrication
Country	India
NSQF Level	3
Credits	NA
Aligned to NCO/ISCO/ISIC Code	NCO-2004/7212.20

Minimum Educational Qualification & Experience	10th Class with 3-5 Years of experience as a certified Helper Fabrication who has worked under a welder OR 10th Class with 3-5 Years of experience in case of a Non trained worker: experience working under a welder
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	Recommended training period of 8-12 weeks as per QP of Tack Welder
Minimum Job Entry Age	18 Years
Last Reviewed On	14/08/2015
Next Review Date	30/09/2021
Deactivation Date	30/09/2021
NSQC Approval Date	21/07/2016
Version	1.0
Reference code on NQR	2016/CON/CSDCI/01543
NQR Version	1.0

CON/N1251: Perform tack welding operations on structural steel elements

Description

This unit describes the skills and knowledge required to carry out operations related to tack welding on structural steel elements

Scope

The workman is expected to perform tack welding operations by arc welding on mild steel, stainless steel and other ferrous alloys used in construction industry. They are also expected to follow relevant and desired safety practice during execution of work and complete the work within expected quality standards.

- The scope covers the following:
- Work as per standard safety practices
- Carry out preparatory works
- Perform tack welding on structural elements

Elements and Performance Criteria

Work as per standard safety practices

To be competent, the user/individual on the job must be able to:

PC1. identify any hazardous conditions in the work place relevant to work

PC2. check that electrical cables from the machine are insulated and terminated properly

PC3. avoid wearing loose clothing and wear welding jumpsuits or any other uniform issued on site

PC4. ensure that there is no leakage in gas pipelines

PC5. avoid presence of moisture in vicinity of the working area and work piece

PC6. avoid any unsafe act by self particularly while working in workplace

PC7. identify and use the fire protection tools and equipment based upon the type of fire

PC8. participate in safety drills organized in workplace

PC9. participate in tool box talks as organized in workplace

Carry out preparatory work

To be competent, the user/individual on the job must be able to:

PC10. identify the location for tack welding

PC11. setup the welding machine as per requirement

PC12. connect work clamps in correct polarity

PC13. ensure that cables do not cause interference in welding

PC14. place the gas cylinders in upright position

PC15. check the welding nozzle prior to begin welding for defects

PC16. check that base metal is properly clamped and secured against movement as applicable

PC17. clean the joint to remove any dust, or foreign particles from the joint

PC18. remove any oil, paints or rust from the joint and its vicinity

PC19. check that all connections are tight and secure

Perform tack welding on structural elements

To be competent, the user/individual on the job must be able to:

PC20. select suitable position for welding the joint
PC21. adjust the current and electrode feed rate to suite the requirements
PC22. adjust the flow of gas to move it is compatible with the feeding rate
PC23. strike the arc correctly without causing defects
PC24. maintain proper electrode extension length to avoid defects
PC25. finish the tack smoothly
PC26. avoid overheating of base metal by adjusting the voltage
PC27. carry out welding for necessary length only

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. standard procedure for tack welding works
KU2. safety rules and regulation for preparing and handling relevant tools and equipment
KU3. personal protection including the use of relevant safety gears &equipment
KU4. service request procedures for tools, materials and equipment
KU5. different types of base metals and their weld temperature
KU6. different types of consumables to be used for different metals
KU7. basics of different welding procedures
KU8. types of welding procedures
KU9. need and importance of tack welding
KU10. different processes involved in fabrication
KU11. basic concepts of fabrication
KU12. different adjustments in welding machine
KU13. importance of choosing proper body postures for welding
KU14. procedure of carrying out welding smoothly
KU15. correct handling and storage of gas cylinders for welding purposes
KU16. power ratings of welding equipment
KU17. use & importance of welding mask
KU18. effects of unclean surface on welds
KU19. preparation of weld joints
KU20. unsafe acts and conditions while working in yard
KU21. the safety evacuation points established by site EHS department
KU22. various hazards in the workplace
KU23. disease that can occur due to using improper welding

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. write in one or more language, preferably in the local language of the site

GS2. read one or more language, preferably in the local language of the site

GS3. read /sketches or instructions provided for the work

GS4. read various, sign boards, safety rules and safety tags , instructions related to exit routes during emergency at the workplace

GS5. speak in one or more language, preferably in one of the local languages of the site

GS6. listen and follow instructions given by the superior

GS7. orally communicate with co-workers regarding support required to complete the respective work

GS8. decide the settings of various parameters of the welding equipment for proper welding as per job requirement

GS9. decide upon the correct posture for welding

GS10. decide upon which fire protection tools and equipment to use based upon the type of fire

GS11. determine whether all connections are tight and secure prior to initiatingwelding operations

GS12. plan work activities for self and request for appropriate tools and consumables accordingly

GS13. complete work as per agreed time and quality

GS14. identify presence of moisture or impurities on the surface to be welded

GS15. analyze actions of self that may result in wastage of materials and consumables so as to optimize their use

GS16. revert to superior for selection/sorting of materials

GS17. identify and assess actions of self that can cause unsafe conditions

GS18. analyze the appropriate the heat input for welding so as to avoid defects in welding

GS19. terminate the weld smoothly

GS20. evaluate the complexity of the tasks to and seek assistance and support wherever required from the superior

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Work as per standard safety practices	**8**	**17**	**-**	**-**
PC1. identify any hazardous conditions in the work place relevant to work	1	3	-	-
PC2. check that electrical cables from the machine are insulated and terminated properly	1	2	-	-
PC3. avoid wearing loose clothing and wear welding jumpsuits or any other uniform issued on site	1	2	-	-
PC4. ensure that there is no leakage in gas pipelines	1	2	-	-
PC5. avoid presence of moisture in vicinity of the working area and work piece	1	2	-	-
PC6. avoid any unsafe act by self particularly while working in workplace	1	2	-	-
PC7. identify and use the fire protection tools and equipment based upon the type of fire	1	2	-	-
PC8. participate in safety drills organized in workplace	1	1	-	-
PC9. participate in tool box talks as organized in workplace	-	1	-	-
Carry out preparatory work	**8**	**23**	**-**	**-**
PC10. identify the location for tack welding	1	2	-	-
PC11. setup the welding machine as per requirement	1	6	-	-
PC12. connect work clamps in correct polarity	1	2	-	-
PC13. ensure that cables do not cause interference in welding	1	1	-	-
PC14. place the gas cylinders in upright position	1	1	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC15. check the welding nozzle prior to begin welding for defects	1	4	-	-
PC16. check that base metal is properly clamped and secured against movement as applicable	0.5	2.5	-	-
PC17. clean the joint to remove any dust, or foreign particles from the joint	1	1	-	-
PC18. remove any oil, paints or rust from the joint and its vicinity	-	1	-	-
PC19. check that all connections are tight and secure	0.5	2.5	-	-
Perform tack welding on structural elements	**4**	**40**	**-**	**-**
PC20. select suitable position for welding the joint	0.5	5.5	-	-
PC21. adjust the current and electrode feed rate to suite the requirements	0.5	7.5	-	-
PC22. adjust the flow of gas to move it is compatible with the feeding rate	0.5	7.5	-	-
PC23. strike the arc correctly without causing defects	0.5	4.5	-	-
PC24. maintain proper electrode extension length to avoid defects	0.5	4.5	-	-
PC25. finish the tack smoothly	0.5	3.5	-	-
PC26. avoid overheating of base metal by adjusting the voltage	0.5	4.5	-	-
PC27. carry out welding for necessary length only	0.5	2.5	-	-
NOS Total	**20**	**80**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N1251
NOS Name	Perform tack welding operations on structural steel elements
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Fabrication
NSQF Level	3
Credits	TBD
Version	1.0
Next Review Date	14/08/2017

CON/N1252: Carry out preheating of materials before cutting and welding process

Description

This unit describes the skills and knowledge required to carry out preheating of materials before they undergo cutting and welding

Scope

The scope covers the following:

- Work as per standard safety practices
- Carry out preparatory works
- Carry out pre heating of structural components/ members using heating torches (oxy fuel torch)

Elements and Performance Criteria

Work as per standard safety practices

To be competent, the user/individual on the job must be able to:

PC1. identify any hazardous conditions in the work place relevant to work

PC2. avoid wearing loose clothing and wear welding jumpsuits or any other uniform issued on site

PC3. ensure that there is no leakage in gas pipelines

PC4. ensure that proper purging is done prior to welding the pipelines or tube sections

PC5. ensure that flash arrestor is installed and functioning properly

PC6. avoid presence of moisture in vicinity of the working area and work piece

PC7. strike the flame with prescribed lighters and not using open flames

PC8. avoid any unsafe act by self particularly while working in workplace

PC9. identify and use the fire protection tools and equipment based upon the type of fire

PC10. participate in safety drills organized in workplace

PC11. participate in tool box talks as organized in workplace

Carry out preparatory works

To be competent, the user/individual on the job must be able to:

PC16. clean the surface of base metal prior to pre heat

PC17. ensure that temperature measurement instrument is available

PC18. ensure that joint is secure clamped and immovable

PC19. ensure that nozzle of torch is clean

PC12. ascertain the location of pre heat

PC13. ascertain the required temperature

PC14. ensure that gas cylinders are in upright position

PC15. ensure that all knobs, values, switches and gauges of equipment are in working condition

Carry out pre heating of structural components/ members using heating torches (oxy fuel torch)

To be competent, the user/individual on the job must be able to:

PC20. strike the flame using gas cutting torch lighter
PC21. adjust the fuel gas flow to obtain desired length of flame
PC22. adjust oxygen flow to concentrate the flame into desired thickness for heat transfer
PC23. hold the torch above the metal joint such that it is not too close to overheat the material and not too far to cause heat loss
PC24. move the torch above and around the joint for symmetrical heat transfer
PC25. check the temperature of the metal regularly to avoid overheating of metal
PC26. close the fuel gas flow before turning off oxygen while closing the torch
PC27. carry out basic maintenance of torch and other apparatus as per requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. standard procedure for tack welding works
KU2. safety rules and regulation for preparing and handling relevant tools and equipment
KU3. personal protection including the use of relevant safety gears &equipment
KU4. service request procedures for tools, materials and equipment
KU5. different hazards associated with pre heating and gas cutting
KU6. different gases employed in the process
KU7. importance of oxygen
KU8. concept of a neutral flame and its importance
KU9. common terminologies associated with pre heating
KU10. requirements and necessity of preheating
KU11. different parts of the equipment
KU12. method of adjusting gas flow rate
KU13. different temperatures for different metals and alloys
KU14. different metals and alloys that can be heated
KU15. effects of heating on metal both physical and metallurgical
KU16. methods of heat transfer and process of same
KU17. how to measure temperature using different instruments
KU18. importance of proper housekeeping of work area
KU19. effects of heating a painted or oily surface
KU20. effects of rust and dust on heating surface
KU21. heating as a method of cleaning
KU22. importance of restricting the movement of metal while heating
KU23. methods of maintenance of heating apparatus
KU24. importance of correct body postures
KU25. why is positioning of body important for proper heating
KU26. what is meant by symmetrical and asymmetrical heat transfer
KU27. causes of heat loss

KU28. effects of overheating the metals
KU29. importance of shape of flame in heat transfer
KU30. relation of heat transfer and flame size, point and its effect
KU31. unsafe acts and conditions while working in yard
KU32. the safety evacuation points established by site EHS department
KU33. various hazards in the workplace
KU34. disease that can occur due to improper cutting

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. write in one or more language, preferably in the local language of the site
GS2. read one or more language, preferably in the local language of the site
GS3. read /sketches or instructions provided for the work
GS4. read various, sign boards, safety rules and safety tags , instructions related to exit routes during emergency at the workplace
GS5. speak in one or more language, preferably in one of the local languages of thesite
GS6. listen and follow instructions given by the superior
GS7. orally communicate with co-workers regarding support required to completethe respective work
GS8. decide the gas flow rate for proper heating
GS9. decide if the nozzle of the torch is clean and fit for use
GS10. decide upon the correct body posture for heating the surface of base material
GS11. plan work activities and request for appropriate tools and consumables accordingly
GS12. complete work as per agreed time and quality
GS13. identify presence of moisture or impurities on the surface to be heated
GS14. analyze actions of self that may result in wastage of materials and consumables so as to optimize their use
GS15. identify and assess actions of self that can cause unsafe conditions
GS16. analyze the appropriate the heat input to avoid distortion in element
GS17. conserve consumables and reduce equipment wear and tear
GS18. identify and assess how violation of any safety norms may lead to accidents

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Work as per standard safety practices	**10**	**22**	**-**	**-**
PC1. identify any hazardous conditions in the work place relevant to work	1	3	-	-
PC2. avoid wearing loose clothing and wear welding jumpsuits or any other uniform issued on site	1	2	-	-
PC3. ensure that there is no leakage in gas pipelines	1	2	-	-
PC4. ensure that proper purging is done prior to welding the pipelines or tube sections	1	1	-	-
PC5. ensure that flash arrestor is installed and functioning properly	1	3	-	-
PC6. avoid presence of moisture in vicinity of the working area and work piece	1	3	-	-
PC7. strike the flame with prescribed lighters and not using open flames	1	2	-	-
PC8. avoid any unsafe act by self particularly while working in workplace	1	2	-	-
PC9. identify and use the fire protection tools and equipment based upon the type of fire	1	2	-	-
PC10. participate in safety drills organized in workplace	-	1	-	-
PC11. participate in tool box talks as organized in workplace	1	1	-	-
Carry out preparatory works	**6**	**18**	**-**	**-**
PC16. clean the surface of base metal prior to pre heat	1	1	-	-
PC17. ensure that temperature measurement instrument is available	-	1	-	-
PC18. ensure that joint is secure clamped and immovable	1	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC19. ensure that nozzle of torch is clean	1	2	-	-
PC12. ascertain the location of pre heat	1	4	-	-
PC13. ascertain the required temperature	-	3	-	-
PC14. ensure that gas cylinders are in upright position	1	2	-	-
PC15. ensure that all knobs, values, switches and gauges of equipment are in working condition	1	3	-	-
Carry out pre heating of structural components/ members using heating torches (oxy fuel torch)	**14**	**30**	**-**	**-**
PC20. strike the flame using gas cutting torch lighter	1	2	-	-
PC21. adjust the fuel gas flow to obtain desired length of flame	2	6	-	-
PC22. adjust oxygen flow to concentrate the flame into desired thickness for heat transfer	2	6	-	-
PC23. hold the torch above the metal joint such that it is not too close to overheat the material and not too far to cause heat loss	3	5	-	-
PC24. move the torch above and around the joint for symmetrical heat transfer	3	5	-	-
PC25. check the temperature of the metal regularly to avoid overheating of metal	1	2	-	-
PC26. close the fuel gas flow before turning off oxygen while closing the torch	1	2	-	-
PC27. carry out basic maintenance of torch and other apparatus as per requirements	1	2	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N1252
NOS Name	Carry out preheating of materials before cutting and welding process
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Fabrication
NSQF Level	2
Credits	TBD
Version	1.0
Last Reviewed Date	25/10/2017
Next Review Date	31/03/2022
NSQC Clearance Date	19/12/2018

CON/N8001: Work effectively in a team to deliver desired results at the workplace

Description

This unit describes the skills and knowledge required to work effectively within a team to achieve the desired results

Scope

The scope covers the following:

- Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams
- Support co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task

Elements and Performance Criteria

Interact and communicate in effective and conclusive manner

To be competent, the user/individual on the job must be able to:

PC1. pass on work related information/ requirement clearly to the team members

PC2. inform co-workers and superiors about any kind of deviations from work

PC3. address the problems effectively and report if required to immediate supervisor appropriately

PC4. receive instructions clearly from superiors and respond effectively on the same

PC5. communicate to team members/subordinates for appropriate work technique and method

PC6. seek clarification and advice as per the requirement and applicability

Support co-workers to execute project requirements

To be competent, the user/individual on the job must be able to:

PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams

PC8. work together with co-workers in a synchronized manner

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. own roles and responsibilities

KU2. importance of effective communication and establishing strong working

KU3. risks of a failure in teamwork in terms of effects on project outcomes, timelines, safety at the construction site, etc.

KU4. different modes of communication, and its appropriate usage

KU5. importance of creating healthy and cooperative work environment among the gangs of workers

KU6. different activities within his work area where an interaction with other workers is required

KU7. applicable techniques of work, properties of materials used, tools and tackles used, safety standards that co- workers might need as per the requirement

KU8. importance of proper and effective communication and the expected adverse

KU9. importance and need of supporting co-workers facing problems for smooth

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. write in at least one language, preferably in the local language of the site

GS2. read in one or more languages, preferably the local language of the site

GS3. read communication from team members regarding work completed, materials used, tools and tackles used, support required

GS4. speak in one or more languages, preferably in one of the local language of the site

GS5. listen and follow instructions / communication shared by superiors/ co-workers regarding team requirements or interfaces during work processes

GS6. orally communicate with co-workers regarding support required to complete the respective work

GS7. decide on what information is to be shared with co-workers within the team or from interfacing gang of workers

GS8. plan work and organize required resources in coordination with team members

GS9. complete all assigned task in coordination with team members

GS10. take initiative in resolving issues among co-workers or report the same to superiors

GS11. ensure best ways of coordination among team members

GS12. communicate with co-workers considering their educational / social background

GS13. evaluate the complexity of task and determine if any guidance is required from superiors

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Interact and communicate in effective and conclusive manner	**14**	**34**	**-**	**-**
PC1. pass on work related information/ requirement clearly to the team members	2	5	-	-
PC2. inform co-workers and superiors about any kind of deviations from work	2	5	-	-
PC3. address the problems effectively and report if required to immediate supervisor appropriately	3	7	-	-
PC4. receive instructions clearly from superiors and respond effectively on the same	2	5	-	-
PC5. communicate to team members/subordinates for appropriate work technique and method	3	7	-	-
PC6. seek clarification and advice as per the requirement and applicability	2	5	-	-
Support co-workers to execute project requirements	**16**	**36**	**-**	**-**
PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams	8	18	-	-
PC8. work together with co-workers in a synchronized manner	8	18	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N8001
NOS Name	Work effectively in a team to deliver desired results at the workplace
Sector	Construction
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	TBD
Version	1.1
Last Reviewed Date	23/05/2015
Next Review Date	31/03/2022
NSQC Clearance Date	21/07/2016

CON/N9001: Work according to personal health, safety and environment protocol at construction site

Description

This NOS covers the skill and knowledge required for an individual to work according to personal health, safety and environmental protocol at construction site

Scope

The scope covers the following:

- Follow safety norms as defined by organization
- Adopt healthy & safe work practices
- Implement good housekeeping and environment protection process and activities

Elements and Performance Criteria

Follow safety norms as defined by organization

To be competent, the user/individual on the job must be able to:

PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authority

PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities

PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable

PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site

PC5. identify near miss , unsafe condition and unsafe act

Adopt healthy & safe work practices

To be competent, the user/individual on the job must be able to:

PC6. use appropriate Personal Protective Equipment (PPE) as per work requirements including: Head Protection (Helmets) Ear protection Fall Protection Foot Protection Face and Eye Protection, Hand and Body Protection Respiratory Protection (if required)

PC7. handle all required tools, tackles , materials & equipment safely

PC8. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines

PC9. install and apply properly all safety equipment as instructed

PC10. follow safety protocol and practices as laid down by site EHS department

Implement good housekeeping practices

To be competent, the user/individual on the job must be able to:

PC11. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes

PC12. apply ergonomic principles wherever required

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. reporting procedures in cases of breaches or hazards for site safety, accidents, and emergency situations as per guidelines
KU2. types of safety hazards at construction sites
KU3. basic ergonomic principles as per applicability
KU4. the procedure for responding to accidents and other emergencies at site
KU5. appropriate personal protective equipment to used based on various
KU6. importance of handling tools, equipment and materials as per applicable
KU7. health and environments effect of construction materials as per
KU8. various environmental protection methods as per applicability
KU9. storage of waste including the following at appropriate location: non-combustible scrap material and debris combustible scrap material and debris general construction waste and trash (non-toxic, non-hazardous) any other hazardous wastes any other flammable wastes
KU10. how to use hazardous material, in a safe and appropriate manner as per
KU11. safety relevant to tools, tackles, & requirement as per applicability
KU12. housekeeping activities relevant to task

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. write in at least one language, preferably in the local language of the site
GS2. fill safety formats for near miss, unsafe conditions and safety suggestions
GS3. read in one or more language, preferably in the local language of the site
GS4. read sign boards, notice boards relevant to safety
GS5. speak in one or more language, preferably in one of the local language of the site
GS6. listen instructions / communication shared by site EHS and superiors regarding site safety, and conducting tool box talk
GS7. communicate reporting of site conditions, hazards, accidents, etc.
GS8. not create unsafe conditions for others
GS9. keep the workplace clean and tidy
GS10. identify safety risks that affect the health, safety and environment for self and others working in the vicinity, tackle it if within limit or report to appropriate authority
GS11. assess and analyze areas which may affect health, safety and environment protocol on the site
GS12. ensure personal safety behavior
GS13. respond to emergency

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Follow safety norms as defined by organization	**11**	**27**	**-**	**-**
PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authority	2	5	-	-
PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities	2	5	-	-
PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable	3	7	-	-
PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site	2	5	-	-
PC5. identify near miss , unsafe condition and unsafe act	2	5	-	-
Adopt healthy & safe work practices	**15**	**33**	**-**	**-**
PC6. use appropriate Personal Protective Equipment (PPE) as per work requirements including: Head Protection (Helmets) Ear protection Fall Protection Foot Protection Face and Eye Protection, Hand and Body Protection Respiratory Protection (if required)	3	7	-	-
PC7. handle all required tools, tackles , materials & equipment safely	2	5	-	-
PC8. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines	2	5	-	-
PC9. install and apply properly all safety equipment as instructed	4	8	-	-
PC10. follow safety protocol and practices as laid down by site EHS department	4	8	-	-
Implement good housekeeping practices	**4**	**10**	**-**	**-**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes	2	5	-	-
PC12. apply ergonomic principles wherever required	2	5	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N9001
NOS Name	Work according to personal health, safety and environment protocol at construction site
Sector	Construction
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	TBD
Version	1.2
Last Reviewed Date	23/05/2015
Next Review Date	31/03/2022
NSQC Clearance Date	21/07/2016

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1.Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.

2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.

3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).

4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.

5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack

Minimum Aggregate Passing % at QP Level : 50

(**Please note**: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N1251.Perform tack welding operations on structural steel elements	20	80	-	-	100	50
CON/N1252.Carry out preheating of materials before cutting and welding process	20	80	-	-	100	30
CON/N8001.Work effectively in a team to deliver desired results at the workplace	30	70	-	-	100	5
CON/N9001.Work according to personal health, safety and environment protocol at construction site	30	70	-	-	100	15
Total	**100**	**300**	**-**	**-**	**400**	**100**

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.